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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/581,521

06/02/2006

Guy Zanella

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07/24/2009

OWENS CORNING
2790 COLUMBUS ROAD
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EXAMINER

MINSKEY, JACOB T

ART UNIT

PAPER NUMBER

1791

NOTIFICATION DATE

DELIVERY MODE

07/24/2009

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

USIPDEPT@owenscorning.com

Office Action Summary	Application No. 10/581,521	Applicant(s) ZANELLA, GUY	
	Examiner JACOB T. MINSKEY	Art Unit 1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 4/23/2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) 5 and 6 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 6-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Applicant's request for reconsideration of the finality of the rejection of the last Office action from the Pre-Appeal Conference is persuasive and, therefore, the finality of that action is withdrawn based on the addition of newly discovered art and the presentation of new grounds of rejection.

Response to Arguments

2. The Applicant argues that Brambach (USP 5,186,999) fails to teach every claimed limitation. Applicant argues that Brambach fails to teach that the expansion agent reacts during molding. The argument is made that the only teaching of molding is in the use of an injection molding machine's nozzle to inject the material.

3. The Examiner has taken the arguments into consideration and respectfully finds them non persuasive. Brambach explicitly describes the molding process even if not using the exact phrasing. From column 4 line 61 to column 5 line 21, an injection molding process is described in which the core is directly injected (column 4 line 63) in an injection molding machine (column 5 lines 2-3) in a mold as described as a back support to control the positioning of the material (column 5 line 12) in order to bond the core to all the layers. The Examiner states that this process describes a molding procedure, and the rejection on claim 1 stands as previously stated.

4. Regarding claim 1, Brambach teaches a process for manufacturing a moulded part (sheet-like material, column 1 line 12), in which the moulded part is obtained by moulding at least one composite sandwich (core material sandwich, column 1 lines 58-

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63), the said sandwich incorporating an expansion agent that reacts during moulding (expandable material, column 3 lines 36-39).

5. The Applicant argues that not all the limitations of claim 2 are met in that claim 2 is dependent on claim 1 and that Brambach's teaching of having the expanding agent in "the core material and an additional bonding layer," does not meet the limitation of claim 2 that the agent is "incorporated into the core of the sandwich."

6. The Examiner respectfully finds the arguments non persuasive, and points out that the claim uses the transitional phrase "characterized by." According to the MPEP 2111.03, "The transitional term "comprising", which is synonymous with "including," "containing," or "characterized by," is inclusive or open-ended and does not exclude additional, unrecited elements or method steps. See, e.g., > Mars Inc. v. H.J. Heinz Co., 377 F.3d 1369, 1376, 71 USPQ2d 1837, 1843 (Fed. Cir. 2004)." The fact that agent is in the core material and an additional bonding layer (Brambach, column 3 line 43), also reads on it being incorporated into the core of the sandwich as claimed.

7. Finally, the Applicant argues that not all the limitations of claim 3 are met in that claim 3 is dependent on claim 1 and that Brambach's teaching of having the expanding agent in "the core material and an additional bonding layer," does not meet the limitation of claim 3.

8. The Examiner respectfully finds the arguments non persuasive for the same purposes as cited in claim 2, and the previous rejection stands.

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. Claims 1-3 and 6-8 are rejected under 35 U.S.C. 102(b) as being anticipated by Brambach, USP 5,186,999.

11. Regarding claim 1, Brambach teaches a process for manufacturing a moulded part (sheet-like material, column 1 line 12), in which the moulded part is obtained by moulding at least one composite sandwich (core material sandwich, column 1 lines 58-63), the said sandwich incorporating an expansion agent that reacts during moulding (expandable material, column 3 lines 36-39).

12. Regarding claim 2, Brambach remains as applied in claim 1 and further teaches that the expansion agent is incorporated into the core of the sandwich (column 3 line 43).

13. Regarding claim 3, Brambach remains as applied in claim 1 and further teaches that the expansion agent is applied to the core and/or its skin (column 3 line 43).

14. Regarding claim 6, Brambach remains as applied in claim 1 and further teaches that the composite sandwich comprises a core and a composite skin, and the process further comprises the step of pressing the composite skin against a wall of a mould by reacting the expansion agent (supported at the back, column 5 lines 10-14).

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15. Regarding claim 7, Brambach remains as applied in claim 6 and further teaches that the step of incorporating the expansion agent within the core (column 3 line 43 and also column 4 line 63).

16. Regarding claim 8, Brambach remains as applied in claim 6 and further teaches that the step of incorporating the expansion agent between the core and the composite skin (column 4 line 44-53).

17. Claims 1-3 and 6-10 are rejected under 35 U.S.C. 102(b) as being anticipated by Saatchi et al, USP 5,174,934.

18. Regarding claims 1-3, 6, 7, and 9-10, Saatchi teaches a process for manufacturing a moulded part (see abstract and column 1 lines 15-20), in which the moulded part is obtained by moulding at least one composite sandwich (see abstract and column 6 lines 52-60), the said sandwich incorporating an expansion agent (blowing agent and activator for blowing agent are both considered to act as expansion agents and are described as magnesium hydroxide, water and sodium borohydride, column 5 line 47-column 6 line 20) that is incorporated into the core of the sandwich (and inherently would be in contact with the skin as well as inherently be present between the main material of the core and the skin) and reacts during molding. This composite sandwich is created in the mold and is then heated in order to foam the sandwich to form the desired article of the shape of the mold (column 7 lines 36-58).

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Claim Rejections - 35 USC § 103

19. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

20. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

21. Claims 9 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brambach, USP 5,186,999 in view of Lunde, USP 6,692,681.

22. Regarding claim 9, Brambach remains as applied in claim 6, but does not explicitly teach the step of reacting the expansion agent by heating the expansion agent in the mould.

23. In the same field of endeavor of manufacturing composite structures, Lunde teaches reacting the expansion agent by heating the expansion agent in the mould (column 19, lines 16-28 and column 21 line 4).

24. It would have been obvious to one of ordinary skill in the art at the time of the invention to utilize Lunde's use of a heated mold to expand the agent in the Brambach

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method for the benefit of heating the expandable agent in the mold to control the expansion of the skin against the mold (column 19 line 27).

25. Regarding claim 12, Brambach remains as applied in claim 6, but is silent on the amount of claimed range of the composite thickness.

26. In the same field of endeavor of molding sandwich composites, Lunde teaches that the thickness of the composite skin is less than 10% of the thickness of the composite sandwich (0.024 inches for skin compared to 0.71 inches for core, column 6 lines 35-45).

27. It would have been obvious to one of ordinary skill in the art at the time of the invention to use the dimensions taught by Lunde in the Brambach method for the benefit of controlling the reinforcement or rigidity of the product by adjusting the skin to core size ratio (column 6, line 49).

28. Claims 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brambach, USP 5,186,999 in view of Beukers, USP 5,225,450.

29. Regarding claim 10, Brambach remains as applied in claim 6, but is silent on what the expansion agent can be.

30. In the same field of endeavor, Beukers teaches that the expansion agent is selected from the group consisting of water, azodicarbonamide, sulphonyl hydrazide, and sodium bicarbonate/citric acid mixtures (column 2 lines 61-65).

31. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine Beukers selection of agents in the Brambach method because the

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European Patent application equivalent is cited as being incorporated by reference in Brambach (EPO 345,855, column 3 line 41).

32. Regarding claim 11, Brambach remains as applied in claim 6, but is silent on the amount of expansion agent to use.

33. In the same field of endeavor, Beukers teaches that the expansion agent represents at least 0.5% by weight of the core (column 5 line 15). Beukers further teaches that the upper limit of the acceptable range of expansion agent is dependent on the combinations of materials (column 4 line 14) and that the upper limit is determined by making a manageable foil that is not too weak to be used as the blowing agent (column 4 line 20). The amount of agent used is a result effective variable.

34. It would have been obvious to one of ordinary skill in the art at the time of the invention to use the claimed range of agent, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. One would have been motivated to use the claimed range of expansion agent from for the benefit of making a manageable foil that has the desired properties as taught by Beukers.

35. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Saatchi et al, USP 5,174,934.

36. Regarding claim 11, Saatchi teaches controlling the final density of the product by adjusting the amount of expanding agents to add. Saatchi does not provide ranges within the instantly claimed limitations. Saatchi provide an example in which the expansion agents total .4% of the weight of the admixture (0.1 grams of blowing agent

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and use of a 3:1 ratio of activator equals a .4% amount of expansion agents in the core, column 5 line 36 and column 6 line 19). The amount of agent used is a result effective variable.

37. It would have been obvious to one of ordinary skill in the art at the time of the invention to use the claimed range of agent, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. One would have been motivated to use the claimed range of expansion agent from for the benefit of controlling the density of the final product to have desirable physical characteristics.

38. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Saatchi et al, USP 5,174,934 as evidenced by Lunde, USP 6,692,681

39. Regarding claim 12, Saatchi teaches controlling the thickness of the composite sandwich by adding spacers to a compaction step (and teaches that it is obvious to adjust the thickness dependent on the mold and or use of the sandwich, column 3 lines 23-32). The thickness of the sandwich after compaction is a result effective variable.

40. It would have been obvious to one of ordinary skill in the art at the time of the invention to use the claimed range of agent, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art.

41. In the same field of endeavor of molding sandwich composites, Lunde provides and example of a final product in which the thickness of the composite skin is less than 10% of the thickness of the composite sandwich (0.024 inches for skin compared to 0.71 inches for core, column 6 lines 35-45).

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42. It would have been obvious to one of ordinary skill in the art at the time of the invention to use the dimensions taught by Lunde in the Saatchi method for the benefit of controlling the reinforcement or rigidity of the product by adjusting the skin to core size ratio (column 6, line 49).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JACOB T. MINSKEY whose telephone number is (571)270-7003. The examiner can normally be reached on Monday to Friday 7:30-5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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JTM

/Eric Hug/

Primary Examiner, Art Unit 1791